necessary to go further and determine if there are any lesions of the portal system, such as cholecystitis, appendicitis, pancreatitis, hepatitis, or peritoneal adhesions.

The taking out of an acute or chronic appendix does not cure the ulcer. Many appendectomies are done before an ulcer was discovered. This is one reason why patients do not always get well following an appendectomy. There is pathology elsewhere.

Patients with foci of infection in the portal lymphatic system should have them removed at earliest recognition. If physicians are on the alert for associated ulcer pathology, the diagnosis will be made more promptly and better end results will be had.

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HENRY SNURE, M. D. (1501 South Figueroa Street, Los Angeles).—The use of the roentgen ray in the management of peptic ulcer has been well covered in this presentation for each type of ulceration.

Another important condition, dealing perhaps more with the diagnosis of peptic ulcer than the management of same, has not been mentioned, namely, duodenitis. It should be considered before Case 1, as some investigators, Konjetzny, for instance, believe that it is the forerunner of peptic ulcer. On the other hand, Judd believes it to be a separate pathologic entity. The symptomatology of duodenitis is practically the same as that outlined for peptic ulcer in Doctor Lanphere's report; however, if the duodenum is opened and the mucous membrane inspected, no distinct ulcer is visualized. The mucous membrane presents a fine stippling, congestion and edema, usually over a small area; bleeding occurs easily on handling. The serosa is seldom thickened; occasionally small scar formation has been noted. Roentgenologically, the duodenal cap is small, difficult to fill and properly outline, and "writhing" is present. Also there is no constant niche present and no retention of barium meal in the stomach.

I would like to emphasize the point made by Doctor Speik, of the need of frequent examination to check up on the efficacy of the treatment and to aid in the search for associated pathology, particularly when the patient does not respond in the usual manner to ulcer management as outlined in the author's paper.

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PAUL B. ROEN, M. D. (1680 North Vine Street, Hollywood).—Inasmuch as the exact cause of peptic ulcer is as yet undetermined, the management of the treatment must be directed toward relief of the symptoms, and of other pathology, if found present, as has been indicated by Doctor Lanphere in his paper.

Peptic ulcers are very frequently associated with other pathology, particularly of the nasal sinuses, the teeth, the gums, and the tonsils, as well as the gastro-intestinal tract. The symptom complex may be due to irritative lesions of the gastro-intestinal tract producing deformity of the duodenal cap, or may be entirely functional. Either one or any combination of these factors may be present in the same patient, rendering a positive diagnosis almost impossible.

Regardless of the exact pathology, a percentage of patients with this hyperacid syndrome so characteristic of ulcer will recover on mental and physical rest treatment, combined with a bland diet and proper alkaline medication at frequent intervals.

The results of treatment frequently prove or disprove the diagnosis. If the treatment does not produce the desired relief, or should there be a recurrence of the symptoms, a further and more intensive study is indicated, to be followed in turn by appropriate treatment.

INJURIES OF THE UROGENITAL TRACT*

REPORT OF CASES

By BURNETT W. WRIGHT, M. D.
Los Angeles

DISCUSSION *by Philip Stephens, M. D., Los Angeles; E. H. Crabtree, M. D., San Diego; Charles P. Mathé, M. D., San Francisco.*

THE task of the urologist engaged in examining industrial accident cases is not always an easy one. He is rarely privileged to see these patients immediately after injury, when external, visible evidence of trauma is so often present, or when the immediate signs and symptoms of injury are in evidence to aid him in making a diagnosis. Aside from the exceptional, severely injured patient who requires immediate hospitalization, most of his industrial patients are seen in his office, days and often weeks after an alleged injury, with urinary complaints which only the patient himself, in most instances, attributes to his accident. He has nearly always received some treatment at the hands of others.

PROBLEMS CONFRONTING THE UROLOGIST

When, still complaining, he comes to the urologist, he brings two distinct problems: (1) Is pathology present in the urogenital tract or not? and (2) If present, did it exist prior to the injury or develop as the result of injury or occur subsequent to and entirely independent of the injury.

The patient's story cannot always be relied on. Some willfully and skillfully misrepresent the facts; others are entirely honest in the belief that the symptoms date from the injury, when it may later be proved that there was preëxisting pathology and that the condition was either aggravated by the injury or that the patient's attention, for the first time, was called to symptoms which he previously ignored.

The reports of the surgeons who first examined him or later treated him are of necessity often incomplete from a urological standpoint, because these men do not generally employ the diagnostic procedures used by the urologist, or possess the special equipment necessary for these examinations. To see blood being ejected from the orifice of a ureter, following injury, for example, is infinitely more valuable than to read or to be told that there was blood in the voided urine shortly after the accident. The task of fixing the degree to which trauma is a factor in this class of cases rests largely with the urologist therefore, for usually his information is based on the only urological examination made in a given case.

In suspected cases of injury to the upper urinary tract, seen remotely after the accident, usually nothing short of a complete urological study will suffice. This includes a plain x-ray of the kidneys, ureters and bladder, examination of voided urine, test for residual urine, cystoscopy,

* Read before the Industrial Medicine and Surgery Section of the California Medical Association at the Fifty-Eighth Annual Session, Coronado, May 6-9, 1929.

bilateral ureteral catheterization, collection of urine from each kidney with examination, perhaps culture or guinea-pig inoculation of the separate urines, a differential functional test and, at times, a pyelogram or pyelo-ureterogram. The value of these procedures is illustrated by the following case.

REPORT OF CASES

CASE 1.—Walter W., age thirty-one; occupation, moving-picture actor. Was referred on August 2, 1928, complaining of pain in the upper right quadrant. He stated that on June 5, 1928, while engaged in his occupation of making pictures, he was required to fall from a running horse and "play dead." After several such falls (for which he was paid at the rate of $10 per fall) he felt a sudden sharp pain in the right lumbar region which persisted and caused him to be confined to bed until July 4, 1928. Since that date he had felt a constant soreness and tenderness on pressure over the right kidney. Since his injury he had had no urinary disturbance except an occasional nocturia of one to two times. Prior to his injury he had always been well. He had never passed blood in the urine.

Examination.—Examination revealed a palpable, movable, and tender right kidney, larger than normal. Voided urine was negative except for a few shreds in the first glass. The external genitalia were normal. No urethral discharge. X-ray showed no shadows. Kidney outlines were not clearly seen. There were multiple strictures in the anterior urethra, the smallest of which admitted a No. 14 French searcher. After dilating the strictures, a cystoscopic examination showed a moderately inflamed right ureteral orifice, but no other bladder pathology. No urine could be seen coming from the right orifice and no peristaltic waves were visible on that side. A catheter met a distinct obstruction in the right ureter, eighteen centimeters from the bladder, which could not be passed with the smallest filiform. A No. 6 catheter passed easily to the left kidney pelvis, without obstruction. No urine was excreted from the right side in twenty minutes. Urine dripped freely from the left side. Phenolphthalein injected intravenously appeared from the left side in four minutes, with 35 per cent excreted in thirty minutes. No dye appeared from the right side. The right ureter was injected with sodium iodid and x-ray made. There was a complete blockage of the ureter in the upper third, near the ureteropelvic juncture, with none of the fluid entering the pelvis of the kidney. The upper third of the ureter, below the obstruction, was distinctly narrowed.

Conclusions.—The conclusions were: a walled-off hydronephrosis, with neoplasm of the kidney to be considered. Nephrectomy was advised.

Subsequent Course.—The patient chose an osteopath to remove his kidney, and the operator reported to the State Compensation Insurance Fund on December 15, 1928 that he had removed a hydronephrotic kidney containing 720 cubic centimeters of purulent urine, with the outlet into the ureter completely blocked. His conclusions were that the condition was the result of the ureter having been torn, with the subsequent scar formation occluding the lumen and producing the hydronephrosis. The specimen was secured by the State Compensation Fund and examined by the Brem, Zeiler & Hammack Laboratory which reported a tumor involving the upper third of the ureter, which on section was a myoma, originating in the musculature of the ureter, obstructing its lumen. Liability was refused.

The urologist engaged in this class of work soon learns not to attach too much importance to a patient's description of his injury or the symptoms he enumerates. An example of how easy it is to be misled occurred with the following case.

CASE 2.—C. F., age fifty-one. Was referred on December 18, 1928. He stated that on November 5, while in a tree at work, he fell astride a limb, bruising the perineum. He felt considerable pain, was nauseated, but did not vomit. The first urine voided seven hours later contained blood. He noticed blood for several days, and on the fourth day the left testicle became swollen and exceedingly sore. On December 11, a competent surgeon reported him as having a ruptured urethra with urinary extravasation into the scrotal sac, with formation of an abscess, which he had drained. We found the left half of the scrotum was indurated and enlarged, with a small fistula in the lower portion. The urine was infected, and he voided with some difficulty. The prostate felt slightly enlarged.

We concluded that an incomplete rupture of the urethra had occurred, with extravasation, and considered it unwise to introduce an instrument into the bladder and recommended him for compensation. Soon after, a second urologist cystoscoped him, found a calculus impacted in the posterior urethra which had ruptured the canal by pressure necrosis and that extravasation had occurred. The prostate was adenomatous. Compensation was justly refused.

The commonest type of case seen by the urologist remotely after injury is the epididymitis for which a direct blow or a "strain" is given as the cause. In our opinion, trauma alone does not cause epididymitis. A careful examination of the secretions of the prostate and seminal vesicles will nearly always reveal a focus of infection which supplied the organism to tissue devitalized by trauma. Acute gonorrhea must be excluded.

We believe that the interests of the insurance carrier, the employer, and those of the injured employee who has symptoms referable to the urogenital tract, will be better guarded and the problems of the consulting urologist greatly simplified if the interval between the injury and the examination is reduced to a minimum.

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DISCUSSION

PHILIP STEPHENS, M. D. (1136 West Sixth Street, Los Angeles).—We have been very much interested in Doctor Wright's paper and the various points which he has developed therein. We note his insistence upon thorough routine examinations and his attempt to impress us with the fact that if certain features are omitted, or short cuts are attempted, that we will, in all probability, miss certain features which we will afterward regret; or which might tend toward the loss of certain points which would be useful in preventing us from making diagnostic mistakes so important in establishing the causal relationship of certain symptoms of the alleged disability.

One special point which we would like to have impressed upon general practitioners, employers, insurance companies, and others interested in this work, is the impossibility of so-called epididymitis, or conditions of this character, being caused by what is termed ordinary strain incident to strenuous work—that they are infectious in character and that the infection necessarily need not be the result of venereal disease. We who are more or less active in industrial practice see many such conditions which are, as a

rule, attributed to a lift or strain, and we feel that a better understanding or standard procedure of decision should be established among all concerned.

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E. H. CRABTREE, M. D. (706 Medico-Dental Building, San Diego).—I have taken a great deal of interest in Doctor Wright's paper, as I think it is very important to ascertain the cause of cases of epididymitis that present themselves to us in compensation work.

We all recognize the fact that an epididymitis cannot come from a strain unless there is infection of some sort present. But the thing that interests me most is the fact that in many cases we are given a history of a severe strain from lifting, which is followed by a swelling in the scrotum. The doctor must deal fairly with the company and with the patient, and it seems to me that in cases where there is no history of any venereal or other infection, it is hard to tell a man who is incapacitated because of a condition which has come on following a strain which occurred at his work, that it is not a compensation case. In other words, although he may have had some latent infection in his urogenital tract, it may not have been Neisserian in type, and whatever the infection was, the man was not cognizant of the fact.

I would appreciate a little more discussion on this point as to what the attitude of the Commission is in this type of case.

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CHARLES P. MATHÉ, M. D. (450 Sutter Street, San Francisco).—Doctor Wright has emphasized an important point in his paper in calling attention to the fact that the patient suffering from an alleged injury to the genito-urinary tract is often seen at such a late date that it is hard to determine the exact rôle that trauma has played in producing the pathological lesion in question. Although an injury will often call the patient's attention to an insidious pathological lesion that had already existed for some time, it often lowers the resistance of the injured organ or structure, making it susceptible to immediate or subsequent infection. Many urologists, notably Hagner, Brewer, Squier, and Rehn, in discussing pyelonephritis have emphasized the rôle of trauma in reducing the resistance of the kidney, making it more susceptible to even the mildest form of infection.

There is no question as to the etiologic rôle of trauma when there is a ruptured kidney presenting a large tear; lesser injuries, including contusions, slight tears, hemorrhagic exudation, etc., are often overlooked and are hard to determine by the methods of diagnosis now at our disposal.

The question of compensation in injuries of the genito-urinary tract is still confused. In order to arrive at a fair decision for the injured worker, employer, and insurance carrier, a careful study and correct interpretation of the pathological processes directly or subsequently resulting from injury should be made. Four types of cases present themselves: (1) Cases in which there is no question as to the trauma causing the signs and symptoms from which the patient suffers, e. g., ruptured kidney, ruptured urethra, ruptured bladder, etc. (2) Cases in which trauma causes no appreciable immediate bad effect but lowers the resistance of the organ or structure, making it more susceptible to subsequent infection, e. g., pyelonephritis, epididymitis, etc. This category would also include cases in which a slight tear in the urethra due to trauma caused no appreciable immediate harm but resulted in progressive, extensive, and damaging stricture formation. (3) Cases in which trauma will light up or cause a preëxisting pathological lesion to give immediate trouble. This group includes cases in which a stone was dislodged by a violent blow, the urethra containing a stone ruptured by sudden violence, the lighting up of a previous more or less nonactive tubercular process, etc. (4) Cases in which trauma has called attention to a preëxisting lesion in which it is reasonable to assume that trauma had played no part in the immediate symptoms. This type is well exemplified by cases one and two reported by Doctor Wright.

Although immediate examination of the injured person by a competent urologist will establish the rôle of trauma in the production of the alleged pathological lesion, it renders no aid in ascertaining subsequent ill effects. The rôle of lowered resistance resulting from injury is the source of considerable debate and can only be determined by a thorough understanding of pathological processes of lesions of the organs and structures making up the genito-urinary tract.

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DOCTOR WRIGHT (Closing).—Concerning the question raised by Doctor Crabtree, and mentioned in Doctor Stephens discussion, the Industrial Accident Commission, replying to an inquiry from me, has written as follows:

"The Industrial Accident Commission has no fixed policy which it publishes to cover the question which you ask. The Commission feels, however, that inasmuch as some strain, accident, or misadventure, causes disability through lighting up or further injuring some defective part, there should be compensation, in part, at least.

"Infections of the prostate and seminal vesicles are very common, and may be present when there never has been any Neisserian infection. The workman is accepted as he is with his defects and weaknesses and tendencies to failure. Therefore, when in the presence of an infection and a strain precipitating a disabling condition, the Commission usually rules that the case is wholly or partially compensable."

GLAUCOMA—SOME SURGICAL CONSIDERATIONS*

By MAY TURNER RIACH, M. D.
San Diego

DISCUSSION *by Frederick C. Cordes, M. D., San Francisco; Lloyd Mills, M. D., Los Angeles.*

DUKE-ELDER expresses the hope that some day we may overcome glaucoma and cataract by physicochemical means. Some encouraging work is being done along this line, but I believe that operative interference will continue to hold its strong position for a good many years; and it merits all the thought and discussion we can bring to bear from every standpoint.

I make no claim for originality for any point raised in this paper, but the seriousness and prevalence of glaucoma and our present inability to master it may excuse one from apology in repetition.

I served an internship at the New York Eye and Ear Infirmary in 1918 and 1919. Dr. John E. Weeks and the late Dr. Robert G. Reese were active surgeons at the infirmary during my residency. Doctor Weeks did the Lagrange operation and Doctor Reese did his iridectomy almost entirely for glaucoma. As house surgeon I assisted at most of these operations and followed the end results of the ward cases, taking fields, visions and tensions; comparing the value of the Lagrange, as done by Doctor Weeks, and the iridectomy, as done by Doctor Reese. I considered each surgeon a master who had perfected his technique, and felt that their results would give a true estimate of the effectiveness of the two operations.

* Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the fifty-eighth annual session, Coronado, May 6-9, 1929.